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ABSTRACT

The aim of this study is to identify and describe the tones of North Vietnamese in the context of single words and one frame sentence. One North Vietnamese male served for seven hours as the informant, the stimulus material being verbal items, illustrations and word lists in both English and Vietnamese. The description of each of the six tones identified includes sample words in which a given tone occurs, an auditory and acoustic description, reference to the work of other scholars concerning a given tone, and in the case of three tones, an articulatory description. Each of the tones is known by a salient characteristic. The six tones are: (1) hanging, a falling tone; (2) sharp, a rising tone; (3) heavy, another falling tone; (4) falling, moving first down and then up; (5) questioning, first rising, then falling, and finally rising again; and (6) a tone which remains on a uniform level, and has no specific name. The appendix provides explanatory notes for the tone chart accompanying the text. (CLK)

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NOTES ON THE TONES OF NORTH VIETNAMESE

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AIM

Our aim has been to identify and describe the tones in North Vietnamese in the context of single words, and one frame sentence.

THE INFORMANT

The informant was Mr Vu Khac Thong who is a Masters student in Electrical Engineering at Monash University. Born in Hanoi, North Vietnam, his family moved south when he was eleven years old. His basic schooling was in Vietnamese but with some lessons in French and English, followed by an intensive English course before coming to Australia six and a half years ago. Mr Thong has kept his Vietnamese alive in Australia through frequent contact with fellow Vietnamese students.

We wish to express our sincere gratitude to Mr Thong for giving us so much of his time, patience and good humour.

The authors wish to thank B. H. Jernudd for his guidance and help with the preparation of this report.

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DATA

The data was collected during seven informant hours at Monash University. Mr Thong was presented with verbal items, illustrations and word lists in both English and Vietnamese. All sessions were recorded on a Tandberg F11 taperecorder with a Beyer microphone. In the final stages of our work Mr Thong corrected the individual efforts of team members at pronunciation thus aiding our description of the articulatory events associated with our auditory impressions.

We asked Mr Thong to restrict his lexical selection and pronunciation to his native North Vietnamese language although he was able to volunteer comparative information about South Vietnamese.

INSTRUMENTS

Analysis was made with the aid of a Frøkjær-Jensen intensity meter, a "transpitch" [fundamental frequency] meter and an oscillomink.

RESTRICTIONS

Allotonic variations are conditioned by both the word and the sentence contexts, but since the latter involves a very complex study it was, of necessity, excluded.

Nor was the effect of different phonic shapes of words on tone, or its converse, the effect of tone on phonic shape, studied.

Data was restricted to certain words pronounced in isolation, and in the context of a 'frame' sentence. Yet the resultant allotonic differences, as shown in Appendix Column E are sufficient to indicate that a study of North Vietnamese in the manner of Tran Huong Mai (1967; especially tone chart A, after page 34) would be highly productive.

COMMENTS

As a springboard from which to launch the study we accepted the following description of a syllable given in Nguyen Dang Liem (1969:12):

"Each syllable is composed of the following elements:

(a) an optional onset - a consonant or consonant cluster;

(b) an obligatory nucleus - a vowel or diphthong;

(c) an optional coda - a consonant, an

(d) an obligatory tone."

We have included the traditional Vietnamese names for tones in our description below because they represent native theories about the tones. However, *hanging*, for example

for tone 1 is not a sufficient indicator of (our) auditory impression nor does it, of course, represent the acoustic diagram.

Our auditory impression of "normal voice range" was made in group consultation. It is an average of our impressions and it is possibly trite to note that we were not totally consistent in our allocation of relative height, and that there were many factors which affected our hearing, e.g. the phonic quality of the various combinations of onset, nucleus and coda.

TONES OF NORTH VIETNAMESE

TONE 1 - huyền *(hanging)*

EXAMPLES OF WORDS

giày *(shoes)*, giò.i *(sky)*, hào *(ten cents)*, màu *(colour)*, nghìn *(thousand)*

AUDITORY DESCRIPTION

The voice begins at or below the mid pitch level of the informant's normal voice range. The tone is sustained briefly before falling evenly and gradually to the lowest level of the range.

The syllable is often accompanied by laryngeal aspiration but we were not able to conclude whether this is directly related to the choice of this tone in vocalic environment.

ACOUSTIC DESCRIPTION

The fundamental frequency is maintained briefly and falls gradually, closely paralleling the movement of the intensity.

OTHER WRITERS

Our description tallies closely with Nguyen-Dinh-Hoa's but is not immediately recognizable in Tran Huong Mai's description of "low, trailing" (1967:20-21) although there would seem to be some similarity.

TONE 2 - sắc (sharp)

EXAMPLES OF WORDS

chính *(main, principal)*, chú *(uncle)*, lắm *(very)*, nhất *(first)*, tính *(character)*.

AUDITORY DESCRIPTION

The voice is heard to start just above mid level and to rise sharply, remaining high throughout.

ACOUSTIC DESCRIPTION

The fundamental is seen to rise evenly and intensity is maintained during the ascent of the fundamental.

OTHER WRITERS

This description tallies with the references.

TONE 3 - nặng (heavy)

EXAMPLES OF WORDS

hiệu *(shop)*, hụt *(miss)*, lạc *(peanuts)*, nạp *(submit)*, nhạt *(bland)*.

AUDITOPY DESCRIPTION

The voice starts a little higher than the middle of the pitch range. It falls immediately and very abruptly to a lower level where it is cut off by glottal constriction or an unexploded stop.

ARTICULATORY DESCRIPTION

In the group's attempt to pronounce words containing this tone the informant accepted those attempts which allowed a glottal constriction to extend over a short period before the word ended. The end of the construction need not be a stop but may be a complete relaxation of tension.

ACOUSTIC DESCRIPTION

Frankly the acoustic record is confusing. The place of termination of the fundamental during voiced

onset consonants is not clear, and this in turn presents difficulties in determining the onset and duration of the tone-bearing vowel.

This is the shortest tone. Its intensity rises rapidly, then falls equally rapidly.

OTHER WRITERS

Nguyen-Dinh-Hoa mentions that voice can be restored after the glottal constriction if the word bearing the tone is pronounced slowly. Tran Huong Mai mentions this also but our data contain no precise examples of this phenomenon. We agree with Mai's description of terminal unexploded stops and the abrupt falling nature of the "tonal contour".

TONE 4 - ngã (falling)

EXAMPLES OF WORDS

bã *(dregs)*, đũa *(chopstick)*, kũng *(also, too)*, mũ *(hat)*, tẽn *(embarrassed)*.

AUDITORY DESCRIPTION

The voice starts above mid level, dips down a very little, breaks in the middle of the articulation of the vowel, then rises abruptly. The syllable usually terminates with full voice at the top of

the voice range. The glottal stop break is often of appreciable length.

ARTICULATORY DESCRIPTION

The articulating muscles are tensed throughout. Onset height of the tone may depend on the backness of the vowel, and the length of the glottal stop may be partly determined by the nature of its articulatory context.

ACOUSTIC DESCRIPTION

This is the most easily recognized tone. The onset intensity of the tone may be three times greater than the reading at any other point in the intensity curve. The first element of the tone may be extremely short as in tẽn.

OTHER WRITERS

Nguyen-Dinh-Hoa extends our description to include creaky voice as well as glottal stop in the middle of the vowel. We have no such examples but this may well be due to the care Mr Thong took whilst pronouncing the words under the conditions of the experiment.

This tone is not part of the tonal inventory of South Vietnamese.

TONE 5 - hỏi (questioning)

EXAMPLE OF WORDS

bảy *(seven)*, fải *(to be correct)*, gửi *(to send)*, hiểu *(to know)*, zỏi *(to be good)*.

AUDITORY DESCRIPTION

The voice starts above mid level of the normal pitch range, rises slightly before a gradual fall, then it rises again to a level slightly lower than its original peak. This tone is long.

ARTICULATORY DESCRIPTION

The throat muscles are tightened so that the voice is squeezed off at the end.

ACOUSTIC DESCRIPTION

The movement of the fundamental is in the form of a drawn-out sine wave as illustrated in the Appendix. The level but low intensity curve during the latter half of the duration of this tone is illustrative of the above-mentioned squeezing off effect.

OTHER WRITERS

Essentially our results agree with Nguyen-Dinh-Hoa's description.

This tone agrees with the tone marked /˜/ in Tran Huong Mai's study. Her description is not detailed so as to indicate the extent of agreement.

TONE 6 - no tone mark or name.

EXAMPLES OF WORDS

len *(wool)*, sinh *(to give birth)*, tem *(postage stamp)*, thư *(letter)*, tôi *(I, me)*.

AUDITORY DESCRIPTION

The voice begins at either a high level or a mid level and remains at the same level throughout. It is neither short nor long in comparison with the other tones.

ACOUSTIC DESCRIPTION

There is minimal movement in the fundamental frequency. The intensity curve builds up gradually and falls off gradually with only slight bias towards a more intense onset of the nucleus.

OTHER WRITERS

Mai is ambiguous because she shows the tone as mid and calls it high and later shows the tone as low-mid calling it mid-high. Nguyen makes reference to a slight fall before a pause but the nature of our eliciting prevented us from observing this phenomenon.

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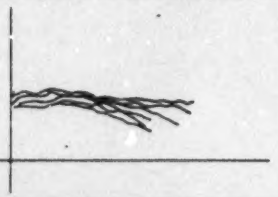
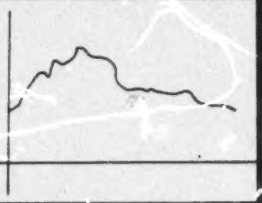
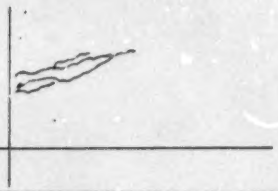
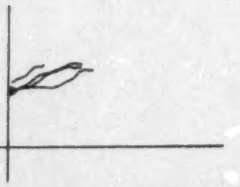
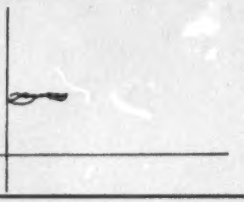
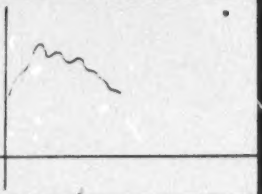
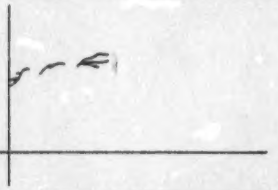
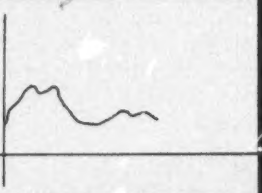
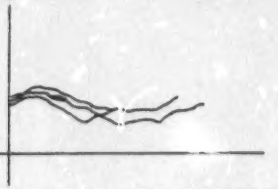
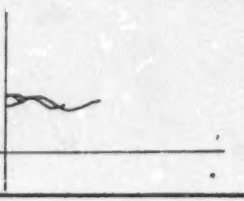
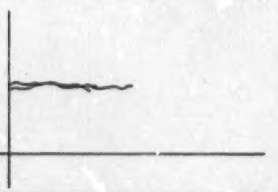
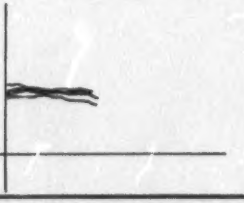
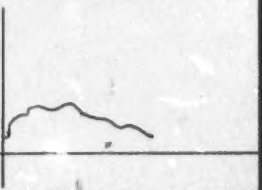
1	\	FALLING				
2	/	HIGH RISING				
3	.	ABRUPT FALLING				
4	?	HIGH BROKEN				
5	?	MID RISING				
6		LEVEL				

APPENDIX - EXPLANATORY NOTES

COLUMN A normal orthographical representation of the tones numbered 1-6.

COLUMN B auditorily motivated names for the tones isolated in the study.

COLUMN C Acoustic shape of the tones which is an approximation to the average of the courses shown by F_o (fundamental frequency) curves of the tone - bearing syllables in both the word and sentence contexts.

COLUMN D F_o curves of the tone-bearing syllables in the single word contexts.

COLUMN E F_o curves of the tone-bearing syllables in the sentence context:

tôi sẻ noí chu [ ] trong câu náy

COLUMN F The intensity/duration curves of the tones of the ma paradigm. No time scale is included because we felt we could say nothing about absolute duration. For reference: 1mm can be taken to represent 0.02 seconds.

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